AMENDMENTS TO THE CLAIMS

Claims 1-32 (Canceled).

Claim 33 (Currently amended): An isolated nucleic acid comprising a nucleic acid encoding a bilin reductase comprising an amino acid consensus sequence as illustrated in Figure 5 or in Figure 10 and having bilin reductase activity. ~~of any one of claims 1 through 20.~~

Claim 34 (Original): The nucleic acid of claim 33, wherein said nucleic acid is a vector.

Claim 35 (Currently amended): A cell comprising a heterologous nucleic acid ~~comprising a nucleic acid~~ encoding a bilin reductase bilin reductase comprising an amino acid consensus sequence as illustrated in Figure 5 or in Figure 10 and having bilin reductase activity. ~~of any one of claims 1 through 20.~~

Claim 36 (Original): The cell of claim 35, wherein said cell is selected from the group consisting of an algal cell, a plant cell, a yeast cell, a bacterial cell, an insect cell, and a mammalian cell.

Claim 37 (Currently amended): An isolated nucleic acid comprising a nucleic acid that specifically hybridizes with a nucleic acid of SEQ ID NO:33 ~~any one of claims 1 through 20~~ under stringent conditions comprising 0.2x SSC wash at 65°C and that encodes a polypeptide having bilin reductase activity~~, wherein said nucleic acid does not encode an hvrcer or an atrcer polypeptide~~.

Claim 38 (Original): The nucleic acid of claim 37, wherein said nucleic acid is a vector.

Claims 39-79 (Canceled).

Claim 80 (New): The cell of claim 35, wherein said heterologous nucleic acid encodes an amino acid sequence of a polypeptide selected from the group consisting of HY2, athy2, slr0116, c362_anab, ycp2-synpy, ycp3_synpy, PcyA_ANASP, PcyA_NOSPU, PcyA_SYNY3, PcyA_SYN81, PcyA_PROME, PebA_SYNPY, PebA_SYN81, PebA_PROMA, PebA_PROME, PebA_NOSPU, PebB_SYNPY, PebB_SYN81, PebB_PROMA, PebB_PROME, PebB_NOSPU, HY2_ARATH, RCCR_ARATH, and RCCR_HORVU,

Claim 81 (New): The nucleic acid of claim 33, wherein said nucleic acid encodes an amino acid sequence of a polypeptide selected from the group consisting of HY2, athy2, slr0116, c362_anab, ycp2-synpy, ycp3_synpy, PcyA_ANASP, PcyA_NOSPU, PcyA_SYNY3, PcyA_SYN81, PcyA_PROME, PebA_SYNPY, PebA_SYN81, PebA_PROMA, PebA_PROME, PebA_NOSPU, PebB_SYNPY, PebB_SYN81, PebB_PROMA, PebB_PROME, PebB_NOSPU, HY2_ARATH, RCCR_ARATH, and RCCR_HORVU.

Claim 82 (New): The nucleic acid of claim 37 wherein said nucleic acid does not comprise rccr_horvu or rccr_arath.